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Botanizing in the Strait of Magellan—II.

By W. E. Safford, U. S. Navy.

(Continued from page 20.)*

The treeless pampa-like scenery continued until we reached Cape Negro, about one hundred miles from the entrance to the strait. There it changed abruptly, trees began to make their appearance, and the country became mountainous. As we passed along, the channel would at times become contracted into a narrow strait, through which the tide ran with great force, and then it would widen out into a broad lake-like expanse, the Fuegian shore becoming faint and hazy in the distance. Shortly after reaching Sandy Point we experienced a heavy fall of hail and snow; but it melted almost immediately, and in going ashore we found several of the houses in the settlement surrounded by bright beds of pansies and daisies, which seemed to have suffered in no way from the inclement weather. Some of these beds were bordered by an edging of sea-thrift, and I noticed in the gardens many other plants indigenous to the region: *Calceolarias*, the lily-like *Symphyostemon*, yellow violets, currants and Fuchsias growing over trellises, and the same shrubby composite (*Chilobothrium amelloides*) that I had collected at Gregory Bay. In the kitchen gardens were patches of lettuce, radishes, cabbages and onions. Potatoes are also raised, but on account of the dampness of the climate the cultivation of cereals is not practicable.

In the vicinity of the settlement I found, in addition to nearly all the plants occurring at Gregory Bay, a second species of *Berberis*, a currant, two species of beech, the Winter's bark, a Fuchsia, a handsome *Ranunculus*, and several other plants. The little *Calceolaria nana* was here replaced by a taller species, also herbaceous and acaulescent, *Calceolaria plantaginea*, with several pure yellow flowers, smaller than in that species, borne on a common peduncle, about a foot high, and with leaves somewhat like those of the common plantain. The barbery (*B. empetrifolia*) grew in the form of a trailing under-shrub, with narrow fascicled leaves and axillary clusters of yellow flowers. The same *Anemone* and *Acæna* as at Gregory Bay were abundant. The currant (*Ribes Magellanica*), the barberry bushes and the *Pernettyæ* were thickly covered with festoons of a gray lichen (*Usnea barbata ?*), which gave to the vegetation somewhat the aspect of that of the Oregon coast region; and as the northern barberries are often attacked by fungi, so here the young leaves of *Berberis buxifolia* were of a bright scarlet color, and much distorted from the attacks of a parasitic *Æcidium.*

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* P. 15, line 15, for 32° read 52°. This error should be rectified in the first part of Mr. Safford's paper.

The woods behind the settlement were made up chiefly of two species of beech and the Winter's bark, a tree very much like a *Magnolia. Fagus antarctica*, the antarctic beech, is here fast becoming extirpated. I saw hundreds of trunks of this species, and dead trees, like whitened skeletons, still standing, some of which were very large. Two saw-mills have been erected at Sandy Point, but I was glad to see they were not in operation. *Fagus antarctica* is by far the largest and most valuable tree for timber in the region of the Straits. In the western part it grows higher up the mountain side than the *Fagus betuloides*, and there it never attains the size that it does near Sandy Point. *Fagus betuloides*, the "evergreen beech," is a much smaller tree. It has a whitish gray trunk which branches many times, the ultimate divisions bearing a flat dense crown of small, glossy, comparatively stiff leaves.

From our anchorage we had a grand view of the western mountains. Beyond Sandy Point there arose on every side a wild combination of rock and tree and hill. When it was clear, we could even see the snowy crest of Mount Tarn.

I will venture here to give a short extract from Darwin's Journal, describing his ascent of Mount Tarn, in which he presents an excellent picture of the country: "The forest commences at the line of high water mark, and during the first two hours, I gave over all hopes of reaching the summit. So thick was the wood that it was necessary to have constant recourse to the compass; for every landmark, though in a mountainous country, was completely shut out. In the deep ravines, the death-like scene of desolation exceeded all description; outside, it was blowing a gale, but in these hollows not even a breath of wind stirred the leaves of the tallest trees. So gloomy, cold and wet was every part that not even the fungi, mosses or ferns could flourish." In another place, when describing the vegetation of the Chonos Archipelago, he says: "Cryptogamic plants here find a most congenial climate. In the neighborhood of the Strait of Magellan, I have before remarked that the country appears too cold and wet to allow of their arriving at perfection."

It was a pleasant surprise for me, after reading the above description, to find a wealth of cryptogamic plants on the shores of Fortescue Bay, which is only a short distance from Mount Tarn. The ground was covered in places with a carpet of *Cystopteris fragilis*, delicate filmy ferns (*Hymenophyllum*), and a rich growth of mosses, liverworts and lichens. There also I found a third species of *Berberis* (*B. ilicifolia*), with spiny holly-like leaves and clusters of orange-colored flowers. The two species of *Pernettya*, the *Embothrium*, *Empetrum*, and the shrubby composite, which I had before collected, occurred, associated with a number of other shrubs and small trees, which I have not yet been able to determine.

At Port Tamar the vegetation was luxuriant. There, beneath a dense canopy formed by the flat-topped beeches, shielded alike from the snow and the sun, growing in a damp spongy soil, and surrounded by an atmosphere laden with moisture, grew a number of plants of exquisite delicacy. Filmy ferns crept up the mossy trunks of the trees, mingled with the beautiful scarlet flowers of *Mitraria coccinea*, and an endogenous plant, *Philesia buxifolia*, occurred, allied to *Smilax*, with handsome trumpet shaped flowers of a delicate rose color. Many other plants were common which I had not seen before, and I collected, besides three species of *Hymenophyllum*, a coarse simply pinnate fern with dense fruiting fronds somewhat like those of *Osmunda cinnamomea*. and a fern with a brittle glossy stem bearing a horizontally expanding umbrella of radiating fronds not unlike our *Adiantum pedatam* in its manner of growth (*A. radiatum*, L.) Extending above the flat tops of the beeches I saw half way up the mountain's side a conspicuous yellow plant. In order to get it I was obliged to walk nearly half a mile literally on the tops of the trees, as it was impossible to advance in any other way. The plant proved to be

Mysodendron punctulatum, a parasite allied to the mistletoe, growing on the living branches of the evergreen beech.

On the morning of December 2d, we left the Strait of Magellan, and turning northward entered Smythe's Channel, which skirts the western coast of Patagonia. The vegetation of its banks differed scarcely at all from that which I have just described. In addition, however, to the plants which I had collected I found a handsome shrub, *Desfontainea spinosa*, with beautiful scarlet tubular flowers lined with yellow and with glossy, prickly, holly-like leaves. And I also collected here a conifer, whlch I neglected to mention before, *Libocedrus tetragona*, belonging to the Cupressineæ.

The *Desfontainea* belongs to the Loganiaceæ, a family which, together with the Proteaceæ, the genera *Libocedrus*, *Araucaria* and a few others, constitute the element in the South American flora which allies it with that of Australia and New Zealand.

In conclusion, I may mention that as in the Northern Hemisphere, many arctic plants reappear in the Alpine regions of Europe, Asia and America, so among the plants which I afterward collected in the higher regions of the Andes of Peru there were several which in the Strait of Magellan and on the shores of Terra del Fuego grow at the level of the sea.

As we advanced northward the channel would sometimes be so dotted with islands that we would almost be bewildered, scarcely knowing which was our path, which was island or which was the shore of the mainland; and then it would contract into a straight, narrow " reach " down which we could see for miles, the flanking mountains fading to a deep purple in the distance. Thus we continued on our way, vista after vista opening before us as we advanced, until reaching Trinidad Channel, when we turned once more to the westward, and, leaving behind us the sheltered inland waters, glided out upon the heaving bosom of the Pacific Ocean.

At Sea, making passage between Callao and Honolulu, Oct. 10, 1887.

Capsicum umbilicatum.

Last season, in the garden of the New York Agricultural Experiment Station, I grew from some *Capsicum* seed received